Table S1: Results of the annotation of seafloor surveys with the Ocean Floor Observation System in the areas where we deployed our food fall experimental landers (Exp. no). Starting position of OFOS surveys is listed (Position OFOS). Number of images (N), annotated area (Area) and image quality (Good = G, Medium = M) and density of observed taxa for each OFOS-deployment for images with good quality and both good and medium quality (G+M). Abbreviations: F, J and S refers to lander deployments with fish, jellyfish and squid respectively (see Table 1). *Amblyraja hyperborean* was observed on OFOS no. 2 in the S3 area. Abbreviations are Asteroidea (Ast.), Ophiuridae (Oph.), *Lycodes frigidus* (*Lyco*.), cf. *Cleippides quadricuspis* (*Clei*.), Gastropoda (Gast.).

OFOS no.	Exp. no.	Position OFOS	N (quality)	Area (m²)	Shrimp	Mysid	Ast.	Oph.	*Lyco.*	*Clei.*	Gast.
1	S1	63°34.89'N 3°53.11'E	60 (G)	24.3	0.62	0.04	0.74	6.51	0	0.17	0.042
2	S3	63°33.30'N 3°55.94'E	52 (G)	20.8	0.29	0	0.48	0.67	0	0.05	0.337
3	F8	63°36.15'N 3°44.99'E	19 (G)	8.0	0.25	0	0.25	0	0	0	0
3	J5	63°37.06'N 4°04.15'E	32 (G)	11.3	0.09	0.53	0.53	13.68	0	0	0.089
4	J6	63°35.57'N 3°50.65'E	41 (G)	14.4	0.07	0.01	0.49	0.21	0	0	0.279
1	S1	63°34.89'N 3°53.11'E	116 (G+M)	52.5	0.52	0.17	0.53	5.49	0.02	0.08	0.153
2	S3	63°33.30'N 3°55.94'E	110 (G+M)	53.0	0.23	0.48	0.36	0.45	0.04	0.02	0.302
3	J5	63°37.06'N 4°04.15'E	70 (G+M)	29.3	0.07	0.98	0.48	6.59	0.03	0	0.239
4	J6	63°35.57'N 3°50.65'E	80 (G+M)	34.7	0.17	0.42	0.26	0.20	0.03	0	0.202
5	F8	63°36.15'N 3°44.99'E	23 (G+M)	10.3	0.2	0	0.2	0	0	0	0

Table S2: Model structure and statistical results for tests assessing differences in the maximum number of scavengers (Max_N), the time of maximum abundances ($tMax_N$), consumption rates, depth, current speed bait types (Bait) including squid (*Illex coindetii*), jellyfish (*Periphylla periphylla*) and fish (*Scomber scombrus*). 'Max_N without fish' was used to test for differences when excluding fish from the scavenger counts as they have not been observed to actively feed on the bait. NS denotes non-significance ($p>0.05$). Note that the consumption rate is based on 8 deployments. * denotes the chosen model, while [f] denotes the full model for each response variable.

Model	Test	LR Chi-squared	Degrees of freedom	p-value	p-values from multiple comparisons test
Max_N ~ Bait*	GLM (quasi-Poisson)	Bait: 246.87	Bait: 2	Bait: < 2.2e-16	Squid – jellyfish: NS Jellyfish – fish: <1e-04 Squid – fish: <1e-04
Max_N (without fish) ~ Bait	GLM (quasi-Poisson)	Bait: 246.62	Bait: 2	Bait: < 2.2e-16	Squid – jellyfish: NS Jellyfish – fish: <1e-04 squid – fish: <1e-04
Max_N ~ Bait + current speed + depth[f]	GLM (quasi-Poisson)	Bait: 33.331 Current speed: 1.908 Depth: 1.241	Bait: 2 Current speed: 1 Depth: 1	Bait: 5.786e-08 Current speed: NS Depth: NS	Squid – jellyfish: NS Jellyfish – fish: 0.0015 Squid – fish: < 0.001
$tMax_N$ ~ Bait	GLM (quasi-Poisson)	107.28	2	Bait: < 2.2e-16	Squid – Jellyfish: <1e-05 Jellyfish – Fish: NS Squid – Fish: <1e-05
$tMax_N$ ~ Bait + current speed + depth[f]	GLM (quasi-Poisson)	Bait: 1742.78 Current speed: 0.34 Depth: 63.93	Bait: 2 Current speed: 1 Depth: 1	Bait: < 2.2e-16 Current speed: NS Depth: 1.291e-15	Squid – Jellyfish: <2e-16 Jellyfish – Fish: <2e-16 Squid – Fish: <2e-16
$tMax_N$ ~ Bait + depth*	GLM (quasi-Poisson)	Bait: 5301.4 Depth: 164.7	Bait: 2 Depth: 1	Bait: < 2.2e-16 Depth: < 2.2e-16	Squid – Jellyfish: <2e-16 Jellyfish – Fish: <2e-16 Squid – Fish: <2e-16
Consumption rate ~ Bait*	GLM (Poisson)	Bait: 7.9604	Bait: 2	Bait: 0.02	Squid – Jellyfish: 0.045 Jellyfish – Fish: 0.038 Squid – Fish: NS
Consumption rate ~ Bait + current speed + depth[f]	GLM (Poisson)	Bait: 5.51 Current speed: 0.32 Depth: 0.3	Bait: 2 Current speed: 1 Depth: 1	Bait: NS Current speed: NS Depth: NS	Squid – Jellyfish: NS Jellyfish – Fish: NS Squid – Fish: NS

Table S3 Maximum number Max_N of observed scavenging taxa groups and the time at which the Max_N was reached ($tMax_N$) per taxa at the different food fall deployments.

Bait	Deployment	Scavenging taxa	Maximum number [Max_N]	Time of maximum number $tMax_N$ [hh:mm]
Illex coindetii	1	Amphipoda spp.	420	3.25
		Ophiuroidea spp.	2	0.38
		Lycodes frigidus	1	1.38
		Decapod Shrimp spp.	1	18.75
		Pantopoda spp.	1	18.58
	3	Amphipoda spp.	343	2.75
		Ophiuroidea spp.	4	14.54
		Lycodes frigidus	1	1.08
Periphylla periphylla	5	Amphipoda spp.	251	8.29
		Ophiuroidea spp.	4	6.87
		Decapod Shrimp spp.	3	15.21
	6	Amphipoda spp.	355	7.79
		Ophiuroidea spp.	1	3.12
		Decapod Shrimp spp.	1	4.5
Scrombus scrombus	7	Amphipoda spp.	1416	8.88
		Lycodes frigidus	1	1.67
	8	Amphipoda spp.	1390	7.50
		Ophiuroidea spp.	1	7.50
		Lycodes frigidus	1	2.38

Table S4: Summary of SIMPER results. For each contrast, average contribution to overall dissimilarity (Average), standard deviation of contribution (Sd), ratio of average to standard deviation of contribution (Ava), average abundances of each scavenger community (Ava, Avb), and cumulative contributions are given (cumsum).

Contrast	Taxa	Average	Sd	Ratio	Ava	Avb	cumsum
Squid – jellyfish	Amphipoda	0.054	0.042	1.284	19.507	17.342	0.461
	Zoarcid fish	0.023	0.001	20.00	1	0	0.660
	Shrimps	0.017	0.015	1.105	0.500	1.207	0.806
	Ophiuroidea	0.011	0.010	1.172	1.707	1.500	0.904
	Pantopoda	0.011	0.013	0.866	0.500	0	1
Squid – fish	Amphipoda	0.289	0.028	10.38	19.507	37.46	0.891
	Ophiuroidea	0.019	0.011	1.750	1.707	0.50	0.952
	Shrimps	0.007	0.009	0.866	0.500	0	0.976
	Pantopoda	0.007	0.009	0.866	0.500	0	1
	Zoarcid fish	0	0	NaN	1	1	1
Jellyfish - fish	Amphipoda	0.341	0.035	9.730	17.342	37.46	0.862
	Shrimp	0.020	0.004	4.690	1.207	0	0.914
	Ophiuroidea	0.017	0.014	1.213	1.500	0.50	0.957
	Zoarcid fish	0.017	0.0003	59.634	0	1	1
	Pantopoda	0	0	NaN	0	0	1